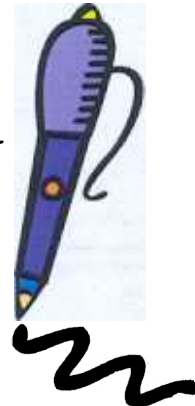


From the President's Pen...

This is the last President's Pen letter I will write. While it's a little bitter-sweet to know I'll no longer be functioning in the same capacity, I have the pleasure of knowing that I will be handing the reins to someone who will take this organization and run with it. For those of you who don't know Nick Heatherly, take my word for it, he's a dedicated and well-qualified successor who will lead this association well for the next two years. Of course I won't be disappearing completely either. I've been too involved with MfSMA for too long to just fade quietly into the sunset. So I'm sure you'll still be seeing me, if not right in the thick of things, at least on the fringe of things.

I'm glad that I've had the opportunity to serve the past two years as president of this wonderful organization. It has been both challenging and rewarding and I couldn't have asked for a better group of people with which to work. Although I worried at the beginning of my term how I would manage to lead such a

dynamic organization, I quickly discovered that the very fact that it IS a dynamic organization made it an easier task than I expected. Instead of paddling furiously in a stagnant pool, I've been able to flow with the current as no more than a guiding hand on the tiller. That says a lot for the quality of the organization and the quality of the membership. I deeply appreciate all the unflagging assistance of the SEMA staff, the members of the board, and the members of this association and thank each of you from the bottom of my heart.



Volume 2, issue 15

Spring 2006

Special points
of interest:

- Election Candidates
- President's Pen
- Reminders

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CFM® Corner

CERTIFIED FLOODPLAIN MANAGER (CFM) EXAMINATION DATES

Osage Beach, MO

May 10th 2006 - 1 pm to 4 pm - Review

May 11th - 9 am to 12 pm - Test

St. Louis MO

June 21st - 1 pm to 4 pm - Review

June 22nd - 9 am to 12 pm - Test

Jefferson City MO

Oct. 12th - 1 pm to 4 pm - Review

Oct 13th - 9 am to 12 pm - Test

If you are interested in registering for one of the test dates, please con-

LEEVE CERTIFICATIONS

FEMA National Office issued Procedure Memorandum 34—Interim Guidance for Studies Including Levees—on August 22, 2005. This brought a halt to countywide studies moving forward until the Regional Office could verify the counties impacted. It was determined Region VII has 30 countywide map revisions funded under Map Modernization that should be halted pending verification of 44 CFR Section 65.10 requirements. Eight (8) of these studies are in Missouri.

The community or other party seeking recognition should contact the levee owner and request they provide all data and documentation for meeting all requirements outlined in 44 CFR 65.10. Documentation should include:

- Assuming that the levee system was not designed by a responsible Federal agency – data to support that a given levee system complies with the structural requirements set forth in 44 CFR 65.10(b)(1) through (7), certified by a registered professional engineer.
- Assuming that the levee system was not designed by a responsible Federal agency – a letter from the agency stating that the levee was adequately designed and constructed to provide protection against the base flood.
- A copy of levee as-built plans certified by a registered professional engineer that design and operations and maintenance systems provide reasonable assurance that protection from the base flood exists.
- A letter from the maintenance entity certifying that the levee system has been properly maintained.

Letters of Map Change (LOMC): Improving LOMA & LOMR Submittals Workshop Schedule

The following LOMC workshop dates have been scheduled. This workshop is geared toward providing understanding of the application process for obtaining a Letter of Map Change, and details the criteria FEMA evaluates in reviewing applications. All workshops are from 9 a.m. – 4 p.m. Continuing education credits are available for various disciplines. Attendees should have knowledge in engineering, surveying, or building science. For more information or a workshop brochure, please contact the SEMA offices at 573-526-9100.

May 22, 2006

The Havener Center
University of Missouri – Rolla Campus
Rolla, MO

June 26, 2006

Ozark Technical Community College
Commons Bldg West, 933 E. Central, Rm 100D
Springfield, MO

July 25, 2006

Chesterfield City Hall, 690 Chesterfield Pkwy West
Chesterfield, MO

Without this information, new countywide DFIRMs will no longer show the levees as providing protection from the base flood.

The FEMA Regional Office sent letters to community officials requesting certification of levees within the community's jurisdiction. Procedural Memorandum 32, *Interim Guidance for Studies Including Levees* was provided with each letter.

For questions concerning this policy contact Julie Grauer at (816) 283-7044.

Connie Wisniewski
Missouri State NFIP Specialist
FEMA Region VII
(816) 283-7013

**MFSMA Website is up & running! Please
visit us online at www.mfsma.com**

**11TH ANNUAL FLOODPLAIN AND
STORMWATER MANAGEMENT CONFERENCE**

MAY 10-12, 2006

Lake Ozark, MO

If you haven't yet registered, it may not be too late.
For conference registration or additional event tickets,
please contact Pam Huhmann at (573) 526-9115

For room reservations, please contact the Resort at Port Arrowhead at
(800) 532-3575. Reservations may also be made online at www.theresortatportarrowhead.com.

ANNUAL MEMBERSHIP DUES

All current memberships are valid through December 31, 2006. Due to last year's by-law change in year-end date, memberships current at that time were automatically extended an additional 6 months. Since this is the time of year renewals were always paid, many renewals are being received that must be handled and refunded by the SEMA staff. To avoid overburdening the SEMA staff (who graciously provide clerical services for our association) please wait until the end of the year to renew your membership. Renewal notices will be mailed near the end of the year.

Please do not renew at this time!

What Goes Up, Must Come Down – Part Two

By: L. Scott Samuels, P.E.

Certified Floodplain Manager

In Part One of this article, I introduced some of the possible changes that could be made to your community's Development and Stormwater Management Ordinances to help reduce future flood heights. These changes involved similar philosophies that have been incorporated into approaches titled Low Impact Development (LID), Green Infrastructure, and the Smart Growth concepts. In the second part of this discussion, I hope to make you familiar with the options you have for using this philosophy in your floodplain management ordinance, the "No Adverse Impact" (NAI) approach.

The NAI approach was developed by the Association of State Floodplain Managers (ASFPM). The ASFPM is the national association representing floodplain managers' concern at the federal level. The MFSMA is a state chapter of the ASFPM and lends its support to the ASFPM on both a state and local level. MFSMA has followed ASFPM's lead on some legislative issues that could affect the National Flood Insurance Program (NFIP). The MFSMA maintains close contact with state representatives in Washington, D.C. and FEMA to echo concerns to maintain the effectiveness of the NFIP.

The first main unveiling of the NAI philosophy was at the ASFPM's 2001 Annual Conference held in Charlotte, NC. The development of this approach was driven by the fact that even though the NFIP had been in effect for over 30 years, statistics were continuing to show that annual flood losses were continuing to climb. This fact alone shows us that the minimum requirements of the NFIP will not reduce future flood damages as intended. A new way of thinking is required to effectively reduce future flood losses. In ASFPM's own words: *"No Adverse Impact floodplain management is an approach which ensures that the actions of one property owner or a community does not adversely impact the properties and rights of other property owners."* These negative impacts were measured by increases in flood peaks, flood stages, flood velocities, erosion, sedimentation, and costs. ASFPM goes on to state: *"The true strength of the NAI approach is that it encourages local decision-making to ensure that future development impacts will be considered and mitigated – a comprehensive strategy for reducing flood losses and costs."*

The objective goal of NAI is to attempt to preserve the natural functions of our floodplains. NAI proposes that non-structural mitigation activities are better than structural solutions. Recent events in New Orleans have shown us that it is better to elevate a structure (non-structural solution) above the estimated Base Flood Elevation than to rely on the protection of your investment with a levee (structural solution). Or better yet, to prohibit certain types of development in areas susceptible to flood damages through local land use planning. If development absolutely has to occur in the floodplain, the negative impacts of that development activity should be mitigated to the fullest extent possible. When these objectives are achieved there are other tangible benefits of this approach. They include the improvement of the water quality of our streams, the preservation of wildlife habitats, the enhancement of the natural erosion control functions, and an increase in local property values.

An example of a community that has incorporated NAI into their local ordinances is the City of Lincoln, NE. The City of Lincoln recently performed a review of their floodplain and other ordinances to see if they reflect current management philosophies or if they needed updating to truly have an effect on future flood heights. It was during this evaluation that they determined the City could strengthen their ordinances to meet the ultimate objective of the NFIP – the reduction of future flood losses. An example of how the City of Lincoln incorporated NAI philosophies into their ordinances include their implementation of a comprehensive watershed approach to floodplain mapping using the latest technology and data available to identify flood hazards. This included the mapping of stream reaches not yet identified on the effective FEMA floodplain maps. However, they have adopted the language that allows the City to regulate these areas as if they were FEMA identified floodplains. It is important to remember that there may be floodplains that pose a hazard in our communities which are not identified on the FEMA maps today.

Another important way in which NAI is incorporated into Lincoln's ordinances is through provisions for both "No Net Rise" and "Compensatory Storage" requirements for development in the floodplain. No Net Rise means that any development in the floodplain must perform an analysis to show that the proposed development will not increase existing flood heights by more than 0.05 of a foot. Compensatory Storage means that flood storage lost to fill or structures in the floodplain must be compensated for at a ratio of one to one by providing additional flood storage elsewhere on the site. In other communities, the concept of "Compensatory Storage" is often used as an alternative to the "No Net Rise" requirement by allowing developers to provide hydrologically equivalent storage volume if the proposed development does increase existing flood heights. This provides the developer with some flexibility when it comes to the options available to them if their proposed project does not meet a "No Net Rise" requirement. It is important to note that the "Compensatory Storage" requirement is not a "No Net Loss" of flood storage. The "No Net Loss" situation is often considered to be a simple equal volume of material requirement where the "Compensatory Storage" analysis is meant to be the provision of flood storage which is hydrologically equivalent. The last major standard adopted by Lincoln was the requirement for a vegetative buffer or "Minimum Flood Corridor" to help preserve the natural functions of the floodplain and to help keep development out of these sensitive areas.

For more information about the City of Lincoln, Nebraska's programs, you can visit their website at: www.lincoln.ne.gov, then type in the keyword "watershed" in their search engine. This will take you directly to the webpage that provides links to their Drainage Criteria Manual, the Flood Standards for New Growth Areas, and their Watershed Stormwater Master Plans. Nicole Fleck-Tooze, the Public Works and Utilities Special Project Administrator, has graciously agreed to be a contact person to the MFSMA if any of our members would like to ask specific questions regarding the City's ordinances. She can be contact at ntooze@lincoln.ne.gov or at 402-441-6173.

Some of you reading this article might be wondering how this approach may change your community's liability when it comes to regulating floodplain management. Though this is a relatively new approach to floodplain management, there have already been legal challenges against communities that have adopted these standards. Fortunately the courts have upheld the NAI regulations and found in favor of those communities. Generally speaking, your community may be more at risk for liability if you do not incorporate the NAI standards, even if you currently meet the minimum federal floodplain management standards established by the NFIP. The underlying reason for this view is that the courts have taken the position that governments can be held liable for actions which result in increasing the damages to others, and it could be argued that the minimum federal floodplain management standards do allow increases in flood heights, that could lead to these damages.

Additional information about NAI can be found at ASFPM's website: www.floods.org. Once at the homepage, place your pointer over the "No Adverse Impact" tab to access additional resources. These resources include a "NAI Tool Kit" which provides detailed information about implementing these approaches in your community. Another document, titled "NAI Case Studies," provides details of eleven (11) communities around the country that have implemented these approaches. This document also contains contact information for each of the communities profiled so you can contact them directly with questions about the problems and successes they had going down the NAI River. You can also access several documents dealing with the legal aspects of NAI, including one titled "No Adverse Impact Floodplain Management and the Courts" by Jon A. Kusler, Esquire. This particular document provides details into the court cases referred to earlier. There is even a small PowerPoint presentation located here that does a good job of providing some background about why NAI is needed and how it can help your community.

As discussed last time, we can no longer continue to manage our community's Development, Stormwater Management, and Floodplain Management standards at the current level. To truly have a positive affect on future flood heights we need to adopt philosophies in these ordinances that mimic the natural functions of our floodplains and wetland areas. In particular we need to address the total amount of impervious area being created outside our mapped floodplains. If we don't change our current ways, what goes up might not come back down.

Created by: H. Stewart, Revised 6/6/2006
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<p>PRESIDENT Nicholas Heatherly (automatic ascension from Vice President) City of Springfield</p>	<p>VICE PRESIDENT Tom Krahenbuhl Jackson County</p>
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<p>AREA DIRECTOR 6 Ellie Marr, St. Charles County sell Todd, Hazelwood, MO</p>	<p>AREA DIRECTOR 8 Gene Swanson Texas County</p>

The following slate of candidates has been presented for the upcoming election. The election will be held May 11, 2006 at the Annual Conference at Lake Ozark, MO. Nominations from the floor will also be accepted.

March 13, 2006

Nicole Fleck-Tooze – Lincoln Public Works and Utilities Department
Glenn Johnson – Lower Platte South Natural Resources District

Background and Floodplain Task Force Development

In May of 2004, the City of Lincoln, Nebraska adopted Flood Standards for New Growth Areas reflecting a No Adverse Impact (NAI) approach to floodplain management - a policy goal developed by the Association of State Floodplain Managers to ensure that the action of one property owner does not adversely impact the flooding risk for other properties. This article describes the process Lincoln went through to formulate and adopt new standards and reflects upon some of the lessons learned during this process.

During the Winter of 2000-2001, the City of Lincoln began to assess the impacts of the increasing number of floodplain development permits being issued. A number of neighborhood and environmental groups had expressed concerns regarding the potential for greater flood heights resulting from increasing volumes of floodplain fill. The Lower Platte South Natural Resources District (NRD), working in partnership with the City of Lincoln, contracted with the Corps of Engineers for a study to analyze the effects of filling in the floodplain and to evaluate a range of alternatives for new floodplain regulations to address the issue.

Based upon the increased rate of fill and building in the floodplain, there were concerns related to the potential impacts of continuing with the present standard until a study could be completed. In response, the City administration proposed an 18-month Interim 'No Net Rise' Standard until the study could be completed and new standards adopted. However, concerns were voiced by a number of business groups that important information was lacking in support of such standards until such time as a study could be completed. As an alternative to the proposed Interim Standard, the business community pledged to support a study and to participate with other interest groups in the review and recommendations regarding flood standards based upon the study results. In August of 2001, Mayor Wesely appointed the Mayor's Floodplain Task Force, representing a range of stakeholders from the community, to formulate recommendations regarding the development of new floodplain standards. The Heartland Center for Leadership Development was hired to conduct professional facilitation for the Task Force. The work of the Mayor's Floodplain Task Force and their final report can be found on the City of Lincoln website at www.lincoln.ne.gov, keyword: watershed.

Technical Studies and Task Force Work

The Task Force was provided the results of both the COE study and a second study completed by Camp Dresser & McKee, Inc. (CDM). The technical portion of the COE study modeled the physical and economic impacts of three scenarios relating to loss of flood storage and conveyance on two stream reaches. The three scenarios were intended to represent varying consequences of continuing to regulate based upon the minimum federal floodplain standards: 1) a one-foot rise in flood elevation across the entire floodplain; 2) 50% loss of flood storage in the flood fringe; and 3) a 100% loss of flood storage in the flood fringe. The one-foot rise scenario was included to represent the impact of filling the flood fringe based upon the FEMA Flood Insurance Study, which does not account for loss of overbank storage in the floodplain. The 50% loss of flood storage and 100% loss of flood storage scenarios were intended to represent varying degrees of actual loss of flood storage capacity within the floodplain.

The CDM study was developed with input from the Floodplain Task Force. It included a comparative economic analysis of several alternative floodplain regulation changes relating to flood storage and flood conveyance on a representative stream reach in Lincoln. The first study component was an evaluation of the economic impact of flood damages to the existing public infrastructure under three regulation alternatives: 1) 1-Foot Rise (minimum federal standard); 2) ½-Foot Rise; 3) No Net Rise / Compensatory Storage (NNR/CS). The NNR/CS regulation was defined as no increase in the 100-year flood elevation and no loss of flood storage. The second component was to evaluate the economic impact associated with implementing more restrictive floodplain regulations for new developments of residential, commercial, and industrial land uses. The analysis used a hypothetical 58-acre parcel traversed by a 1000-foot reach of channel with 75% of the parcel area within the regulatory floodplain to model relative to each land use the same three scenarios described above, in addition to Cluster Development (where development is clustered outside of the floodplain with no reduction in overall site density).

A third study component requested by the Task Force involved describing and evaluating the advantages and disadvantages of six floodplain management alternatives: NNR/CS; property buyouts; cluster development; a 'Greenfield' approach (to maximize stream buffers); 'best management' development practices, and floodplain mitigation. The COE and CDM studies demonstrated that while the NNR/CS and other more restrictive standards add some cost to develop in the floodplain, the NNR/CS standard in particular saves millions of dollars in potential future flood damages that would otherwise be expected to occur if regulation had continued based only on the minimum federal floodplain standards. Both studies supported the benefits of preserving flood storage, flood conveyance, and stream buffers. These three elements were at the core of the natural and beneficial functions recognized by the recommendations of the Floodplain Task Force, which were finalized in

(Continued on page 8)

April of 2003

It seems clear that the thorough study and public process led by the work of the Floodplain Task Force contributed to the successful advancement of the standards through the formal adoption process the following year in a relatively short time frame. However, one of the major challenges of the Task Force was the duration of their commitment. The Task Force began their work long before study conclusions were available, and it was difficult to align the COE study process and time line with the local public participation efforts. Thus, the work of the Task Force stretched out over an 18-month time period. While the early involvement of the Task Force allowed for their input on the scope of the studies, it was a challenge to keep all members engaged throughout the process. It seems likely that the duration of this commitment contributed to the inconsistent attendance by some members representing the business community, who we were challenged to keep engaged in the process.

Task Force Recommendations and Proposal for New Growth Areas

The Task Force recommendations specifically distinguished between the "Existing Urban Area" of Lincoln and the City's and "New Growth Areas." There was recognition that the City's existing urban area has a tremendous amount of development already within the floodplain. This area also has zoning and land uses historically designated for the floodplain which have encouraged development. While the recommendations for the Existing Urban Area embody generally the same principles as those for Lincoln's New Growth Areas, the Task Force did propose that smaller sites within the Existing Urban Area be provided some 'administrative relief' from the standards.

Recognizing the lower level of consensus on the Task Force and within the community in general for more restrictive flood standards within the Existing Urban Area, the urgent need for more restrictive flood standards in New Growth Areas due to development pressures, and the greater effectiveness of standards for New Growth Areas in terms of protecting floodplain functions which have not yet been adversely impacted, the City administration proposed the adoption of Flood Standards for New Growth Areas as a first phase. These standards were drafted and brought forward for adoption in the spring of 2004. One very effective tool was the development of an illustrative brochure to communicate the concepts in layperson's terminology, and this was also instrumental in focusing the NAI message.

Flood Policies and Standards for New Growth Areas

The Flood Standards for New Growth Areas included both the adoption of policies and strategies in the Lincoln-Lancaster County Comprehensive Plan, as well as specific regulations and standards adopted as part of Lincoln's zoning and subdivision code, which applies within Lincoln's 3-mile zoning jurisdiction. The policies adopted confirmed the floodplain and land use policy assumptions embodied in the Comprehensive Plan which had been adopted during the 2002 update to the Plan. These included a strategy that development in New Growth Areas should generally be outside of the floodplain, a concept which was also reflected in the Land Use Plan. The floodplain policies adopted by the City also included a range of strategies to reflect the Task Force policy recommendations relating to floodplain conveyance and storage, floodplain mapping, floodplain buyouts, buffers, education, best management practices, and incentives. Finally, and perhaps most importantly, a policy of No Adverse Impact (NAI) was adopted as an umbrella policy in the Comprehensive Plan to guide floodplain management. This reflects the Association of State Floodplain Manager's policy goal to insure that the action of one property owner does not adversely impact the flooding risk for other properties.

A full set of the Flood Standards for New Growth Areas can be found on Lincoln's website at the address cited previously. There are five major points embodied by the flood regulations and standards:

Application to Lincoln's New Growth Areas. The more restrictive standards adopted as a first phase apply to Lincoln's New Growth Areas. These are areas that were outside of the City limits and did not have zoning for urban land uses as of May 25, 2005.

2. Use of Best Available Flood Information. As watershed master plans are completed by the City and the Lower Platte South NRD, more accurate floodplain information becomes available. The Flood Standards for New Growth Areas incorporate the use of 'best available' flood hazard information by clearly applying standards to both the FEMA-mapped floodplains as well as to other floodplains identified through studies but not yet reflected on the FEMA maps.
3. "No Net Rise" Standard. Flood Standards for New Growth Areas require No Net Rise, which means that development must be designed so that it does not increase the 100-year flood elevation, similar to the minimum federal standards for the floodway.
4. Compensatory Storage Standard. Compensatory Storage is a standard for New Growth Areas which preserves the ability of the floodplain to store water. It means that encroachments of structures or fill which cause a loss of flood storage are offset by providing a hydrologically equivalent volume of storage adjacent to the area of the encroachment.
5. Buffer (Minimum Flood Corridor) Standard. This standard recognizes the function of the floodplain to act as a natural sponge to absorb, slow down and filter stormwater. Lincoln previously had a buffer standard which applied to limited

stream reaches outside of the mapped floodplain. The standard adopted for New Growth Areas extends buffers downstream to those reaches with mapped floodplains, and upstream to drainage ways with less than 150 acres if they have a defined bed and bank. The standard also does not allow for streams to be shifted.

Assessment and Next Steps

The Flood Standards for New Growth Areas have been in place for nearly two years and to date have not been extensively tested. Where development has occurred in locations where the new Flood Standards apply, there seems to be general agreement that implementation of the standards has been fair and reasonable. However, the application of the buffer requirement to the upper stream reaches has been called into question - particularly the restriction on shifting smaller stream channels - and the need to make the standard more flexible in this area continues to be raised as an issue. There also continues to be discussion regarding the need for more restrictive standards in Lincoln's Existing Urban Area, and it is anticipated that this will be a topic for consideration following the completion of the Salt Creek map update in 2006.

Lessons Learned

DO:

- Have a task force with broad representation
- Complete studies on the impact of both "what if you do" and "what if you don't" scenarios
- Use input from the task force to formulate study goals
- Use a professional facilitator
- Separate discussion of standards for the existing urban area from new growth areas
- Use staff and professionals who can relay concepts in layperson terminology
- Develop illustrative, graphic material to explain the concepts
- Address broader policy goals in addition to formulating specific standards
- Look at land use issues in concert with flood standards

DON'T:

- Tie the public participation process to a study timeframe that you cannot control
- Drag out the public process so that you lose interest and commitment from task force members

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